Therapie
Volume 62, Issue 1, January 2007, Pages 23-29

Bronchodilatory effect of Carum copticum in airways of asthmatic patients

Boskabady, M.H.a, Alizadeh, H. a, Jahanbin, B a

a Department of Physiology, Ghaem Medical Centre, Mashhad University of Medical Sciences, Mashhad, Iran

Abstract

Background. Several therapeutic effects including anti-asthma and dyspnea have been described for the seeds of Carum copticum. In previous studies the relaxant and anticholinergic (functional antagonism) effects, histamine H1 inhibitory and β2 stimulatory effects of Carum copticum have been demonstrated on guinea pig tracheal chains. In the present study, the bronchodilatory effect of boiled extract from Carum copticum in the airways of asthmatic patients was examined. Materials and methods. The bronchodilatory effects of 0.125 and 0.25 ml/kg of 10 % boiled extract in comparison with 6 mg/kg theophylline and placebo were studied by measuring pulmonary function tests (PFTs) and specific airway conductance (sGaw). Pulmonary function tests were measured before administration and repeated 30, 90, 120, 150 and 180 min after administration of the oral extract and theophylline. Results. The results showed that the boiled extract of Carum copticum caused significant increases in all PFT values, in most time intervals, (p < 0.05 to p < 0.001). However, the increase in most PFT values due to the both doses of boiled extract were significantly lower than those of theophylline in most time intervals (p < 0.05 to p < 0.001). The onset of bronchodilatory effect of extract was similar to that of theophylline beginning 30 min, its maximum effect on PFTs (23 to 32 % increase) was seen in 90-120 min and the effect of extract decline after 150 min following administration similar to the effect of theophylline. In addition the placebo did not cause any significant increase in PFT values. Conclusion. In conclusion, the results of the present study showed that Carum copticum has a relatively bronchodilatory effect on asthmatic airways which was comparable with the effect of theophylline at concentrations used. © 2007 Société Française de Pharmacologie et de Thérapie.

Reaxys Database Information

Author keywords

Airways; Asthma; Bronchodilatory effect; Carum copticum

Indexed Keywords

EMTREE drug terms: Carum copticum extract; placebo; plant extract; salbutamol; theophylline; unclassified drug; bronchodilating agent

EMTREE medical terms: adult; aged; airway conductance; article; asthma; bronchodilation; carum copticum; clinical article; clinical trial; controlled clinical trial; controlled study; female; human; lung function test; male; medicinal plant; priority journal; randomized controlled trial; caraway; chemistry; dose response; isolation and purification; middle aged; pathophysiology

MeSH: Adult; Aged; Asthma; Bronchodilator Agents; Carum; Dose-Response Relationship, Drug; Female; Humans; Male; Middle Aged; Plant Extracts; Respiratory Function Tests; Theophylline. Medline is the source for the MeSH terms of this document.

Chemicals and CAS Registry Numbers: salbutamol, 18559-94-9; theophylline, 58-55-9, 5967-84-0, 8055-07-0, 8061-56-9, 99007-19-9; Bronchodilator Agents; Plant Extracts; Theophylline, 58-55-9

ISSN: 00405957 CODEN: THERA Source Type: Journal Original language: English DOI: 10.2515/therapie/20070007 PubMed ID: 17374344 Document Type: Article

Cited by since 1996

This article has been cited 3 times in Scopus: (Showing the 2 most recent)

Khan, R., Adl, M., Daneshmand, M.
In vitro and in vivo inhibition of Streptococcus mutans biofilm by Trachyspermum ammi ammi seeds: An approach of alternative medicine (2012) Phytomedicine

Khan, R., Zaker, M., Kham, Z.
Novel compound from Trachyspermum ammi (Ajowan caraway) seeds with antibiofilm and antiallergen activities against Streptococcus mutans: A potential chemotherapeutic agent against dental caries (2010) Journal of Applied Microbiology

Related documents

Showing the 2 most relevant related documents by all shared references:

Boskabady, M.H., Jandaghi, P., Kiani, S.

Boskabady, M.H., Jandaghi, P.
Relaxant effects of carvacrol on guinea pig tracheal chains and its possible mechanisms (2003) Pharmazie

Find more related documents in Scopus based on:

Authors | Keywords

More By Those Authors

The authors of this article have a total of 101 records in Scopus: (Showing 5 most recent)

Boskabady, M.H., Tabanfar, H., Gholamzadaz, T., Sadeghnia H., R.
Inhibitory effect of Zataria multiflora Boiss and carvacrol on histamine (H1) receptors of guinea-pig tracheal chains (2012) Fundamental and Clinical Pharmacology

Mirdamadi, M., Hazrati, S.M., Khazazd, M.R., Ghafari, K., Boskabady, M.H.

Add apps | Help